




Work of the REL Central Native American Education Research Alliance


Dan Jesse
August 12, 2014

REL Central
Regional Educational Laboratory




REL Central Overview

Seven-State Region



REL Central
Regional Educational Laboratory



REL Central Overview

Three Collaborators

- Marzano Research Laboratory (MRL)
- RMC Research Denver (RMC)
- Augenblick, Palaich and Associates, Inc. (APA)

REL Central
Regional Educational Laboratory



Native American Education Research Alliance

- The NAERA supports efforts to improve academic achievement of Native American students and build capacity to develop interventions that serve Native American students.
- Purpose: Provide a forum for educators, researchers and policy makers to develop, research and share efforts to improve Native American student achievement

REL Central
Regional Educational Laboratory

NAERA Background

- Started in 2012
- More than a hundred members
- Free and open to anyone interested
- A subcommittee that represents the region drives the work
- We will provide an overview of what the Alliance is doing, what we have learned, and what resources are available to you

REL Central
Regional Educational Laboratory

Activities to Date

- Literature Summary to Inform the Alliance
- Vocabulary Acquisition for Native students
- Instructional strategies for improving Native mathematics achievement
- Participation in the National Forum
- Early childhood education WebEx meeting
- Building the capacity of Alliance Members to conduct research and evaluation, such as the WoLakota project

REL Central
Regional Educational Laboratory

What We Learned

- Achievement of Native students is difficult to change
- Abundant qualitative literature available
- Very little quantitative literature exists on this topic
- Pre-existing national data sets can inform this work
- Numerous independent efforts are underway to address the issue



Other Resources

- Newsletters
- Web site
- Publications from other laboratories
- Rapid Response Literature Summary
- IES Practice Guides
- Ask a REL



Newsletters

- The newsletter is distributed online to NAERA members on a quarterly basis
- Each newsletter provides information on current research resources and events related to education for Native American populations
- In addition, a focus article in each edition of the newsletter provides an overview of a current topic of interest to members



Newsletter Articles

- The last edition of the NAERA newsletter, for example, focused on the *Wakanyeya* "Sacred Little Ones" Early Childhood Education Initiative sponsored by the American Indian College Fund. The initiative brings together families, ECE teachers, tribal colleges, and elementary schools to provide supportive and culturally appropriate education to children through grade 3.



Previous Newsletter

- The February 2014 newsletter focused on South Dakota's WoLakota Project, which supports new teachers working with Native American populations and serves to stem the high rate of teacher turnover in rural, isolated, high-poverty communities.



Web Site

The NAERA website can be found at:

<http://www.relcentral.org/research-alliances/ra7-impact-of-research-based-curriculum-and-instruction-strategies-on-the-achievement-of-native-american-students/>

A number of research resources can be found on the website, including products from other laboratories.



Literature Summary

REL Central conducted an extensive rapid response literature summary.

- It includes experimental studies, quasi-experimental studies, correlational studies, and qualitative descriptive studies to identify promising practices that positively impact Native American student achievement.
- It rated studies in terms of their methodological quality.
- It extracted key features of interventions or promising practices.



Research Questions

- Which instructional strategies have been identified as being most promising for closing the gap between Native American students and their peers?
- What features are common among the promising strategies for closing the achievement gap for Native American students?



Studies Reviewed

- Results were filtered after in-depth abstract review
391 candidate studies
- Results further filtered by the research team
 - Over 60 studies abstracted
 - 39 studies selected for full review in the rapid response summary
- Additional studies can be reviewed, depending on research alliance recommendations



Four Subject Area Categories of Studies

- **Mathematics**
- Reading/Language Arts
- Science
- Culturally Relevant Topics



Mathematics Instructional Strategies/Interventions for Native American Students

- Cooperative Learning
- Interactions
- Content Focus
- Problem Solving
- Cultural Relevance



Institute for Educational Sciences (IES) Practice Guides

- What Works Clearinghouse (WWC)
 - Created in 2000
 - To support use of scientifically-based research
- IES Practice Guides
 - Prepared by panels of nationally recognized experts
 - Include a coherent set of actionable recommendations
 - Explicitly based on empirical evidence



IES Practice Guides

- English language learners
- Reading comprehension
- Improving mathematical problem solving in grades 4-8



IES Practice Guide for English Language Learners



Recommendations	Level of Evidence
1. Conduct formative assessments using measures of phonological processing, letter knowledge, and word and text reading.	Strong
2. Provide focused, intensive small-group interventions.	Strong
3. Provide high-quality vocabulary instruction throughout the day.	Strong
4. Ensure that the development of formal or academic English is a key instructional goal, beginning in the primary grades.	Minimal
5. Devote approximately 90 minutes a week to instructional activities between pairs of students at different proficiency levels.	Strong

<http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=6>

IES Practice Guide for Reading Comprehension



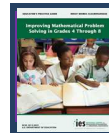
Recommendations	Level of Evidence
1. Teach students reading comprehension strategies.	Strong
2. Teach students to identify and use the text's organizational structure to comprehend, learn, and remember content.	Moderate
3. Guide students through focused, high-quality discussions on the meaning of text.	Minimal
4. Select texts purposefully to support comprehension development.	Minimal
5. Establish an engaging and motivating context in which to teach reading comprehension.	Moderate

<http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=14>




Lakota Language Instruction

IES Practice Guide for Improving Mathematical Problem Solving in Grades 4-8



Recommendations	Level of Evidence
1. Prepare problems and use them in whole-class instruction.	Minimal
2. Assist students in monitoring and reflecting on the problem-solving process.	Strong
3. Teach students how to use visual representations.	Strong
4. Expose students to multiple problem-solving strategies.	Moderate
5. Help students recognize and articulate mathematical concepts and notation.	Moderate

http://ies.ed.gov/ncee/wwc/pdf/practice_guides/mps_pg_052212.pdf



IES Practice Guide for Effective Fraction Instruction

Recommendations	Level of Evidence
1. Build on students' informal understanding of sharing and proportionality to develop initial fraction concepts.	Minimal
2. Help students recognize that fractions are numbers and that they expand the number system beyond whole numbers. Use number lines as a central representational tool in teaching this and other fraction concepts from the early grades onward.	Moderate
3. Help students understand why procedures for computations with fractions make sense.	Moderate
4. Develop students' conceptual understanding of strategies for solving ratio, rate and proportion problems before exposing them to cross-multiplication as a procedure to use to solve such problems.	Minimal
5. Professional development programs should place a high priority on improving teachers' understanding of fractions and how to teach them.	Minimal

http://ies.ed.gov/ncee/wwc/pdf/practice_guides/fractions_pg_093010.pdf

Recommendations: Fractions

Use what young students know about sharing to illustrate fractions.

Number lines are particularly advantageous for assessing knowledge of fractions

Help students understand why dividing a fraction can result in a quotient larger than the number being divided.

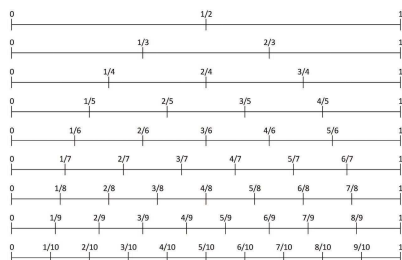
Illustrating how diagrams and other visual representations can be used to solve ratio, rate and problems.

Provide instruction on how to translate statements in word problems into mathematical expressions involving ratio, rate and proportion.

http://ies.ed.gov/ncee/wwc/pdf/practice_guides/fractions_pg_093010.pdf



Fractions on a Number Line



Adapted from Shoseki (2010), p 23 NCEE 2010-4039.



Ask a REL

Native American males are over-represented in special education, and are more likely to drop out. What information is available to inform this issue?

Faircloth, S., & Tippeconnic, J. W., III. (2000). *Issues in the education of American Indian and Alaska Native students with disabilities*. Charleston, WV: Report from ERIC Clearinghouse on Rural Education and Small Schools. Available from: <http://files.eric.ed.gov/fulltext/ED448009.pdf>

Klingner, J. K., Artiles, A. J., Kozleski, E., Harry, B., Zion, S., Tate, W., Durán, G. Z., & Riley, D. (2005). Addressing the disproportionate representation of culturally and linguistically diverse students in special education through culturally responsive educational systems. *Education Policy Analysis Archives*, 13, 38. Available from: <http://files.eric.ed.gov/fulltext/EJ846743.pdf>



Ask a REL

Native American males are over-represented in special education, and are more likely to drop out. What information is available to inform this issue?

Faircloth, S., & Tippeconnic, J. W., III. (2000). *Issues in the education of American Indian and Alaska Native students with disabilities*. Charleston, WV: Report from ERIC Clearinghouse on Rural Education and Small Schools. Available from: <http://files.eric.ed.gov/fulltext/ED448009.pdf>

Klingner, J. K., Artiles, A. J., Kozleski, E., Harry, B., Zion, S., Tate, W., Durán, G. Z., & Riley, D. (2005). Addressing the disproportionate representation of culturally and linguistically diverse students in special education through culturally responsive educational systems. *Education Policy Analysis Archives*, 13, 38. Available from: <http://files.eric.ed.gov/fulltext/EJ846743.pdf>



Online Meetings

- Open only to NAERA members
- Are presented at least twice a year and feature respected researchers and practitioners in the field
- Participants have multiple opportunities to ask questions of the presenters
- For those who are unable to attend, the events are recorded and members can view them at a later time



Research Focus

- NAERA conducts ongoing needs sensing process
- Activities are focused on a limited number of research topics
- These topics include early childhood education, instruction, education in rural communities, culturally relevant education, and ensuring college and career readiness
- Raising the academic achievement of Native students continues to be a fundamental area of focus



Future Plans

- Summits on High Quality Instruction for Educators of Native students
- Fall online meeting on the topic of College and Career Readiness
- Possible Cross-REL meeting on research at the NIEA Conference to be held in mid-October



Joining the Alliance

- Again, this is free and open to anyone interested
- You will receive our newsletters, notifications about events, and the opportunity to participate in WebEx meetings and Interactive webinars
- The Web site archives many of our meetings and has resources available to anyone.
- You do not have to be a member to use resources on the Web site
- If you would like to join, please fill out a postcard and send it in, or give it to one of us



Joining the Alliance



I am interested in: ☐ All

- | | |
|---|--|
| <input type="checkbox"/> Formative Assessment | <input type="checkbox"/> Native American Education |
| <input type="checkbox"/> Educator Effectiveness | <input type="checkbox"/> Common Core Standards |
| <input type="checkbox"/> Rural Education | <input type="checkbox"/> Math and Science |

Name _____

Email Address _____

Organization (optional) _____



Augenblick, Palaich and Associates, Inc.



Ongoing Communication

- REL Central website:
<http://www.relcentral.org/>
- Contact Linda Fredericks, RA Lead:
fredericks@rmcdenvr.com
(800) 922-3636
- Contact Dan Jesse, Researcher:
jesse@rmcdenvr.com
(800) 922-3636



Questions?

Thanks for attending this presentation!